



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,502	05/11/2004	Chun-Wei Lo	FTCP0034USA	3501

27765 . 7590 02/02/2006

NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION
P.O. BOX 506
MERRIFIELD, VA 22116

EXAMINER

LIN, SUN J

ART UNIT PAPER NUMBER

2825

DATE MAILED: 02/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/709,502

Applicant(s)

LO ET AL.

Examiner

Sun J. Lin

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 May 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to application 10/709,502 filed on 05/11/2004. Claims 1 – 15 remain pending in the application.

Drawing Objections

2. Drawing listed below is objected to because of following informalities:

Fig. 3, in box 350, after "DRC rules" delete —, **than go to step 370**—.

Appropriate correction is required.

Specification Objections

3. The specification is objected to because of following informalities:

Paragraph 0011, line 3 – 4, change "the preferred embodiment that is" to —**preferred embodiments that are**—.

Paragraph 0011, line 4, before "various" delete —**the**—.

Paragraph 0011, line 5, after "drawings" insert —**given below**—.

Paragraph 0012, line 1, change "the flow chart of the generation" to —**a flow chart of generation**—.

Paragraph 0012, line 2, after "according to" insert —**a preferred embodiment of**—.

Paragraph 0013, line 1, change "the flow chart of the generation" to —**a flow chart of generation**—.

Paragraph 0013, line 2, after "according to" insert —**a preferred embodiment of**—.

Paragraph 0014, line 1, change "the flow chart of the generation" to —**a flow chart of generation**—.

Paragraph 0014, line 2, after "according to" insert —**a preferred embodiment of**—.

Paragraph 0016, line 2, before "parameters" delete —**other**—.

Paragraph 0017, line 1 – 2, change "the flow chart of the generation" to —**a flow chart of generation**—.

Paragraph 0017, line 2, after “according to” insert **—a preferred embodiment of—**.

Paragraph 0024, line 2 – 3, change “the flow chart of the generation” to **—a flow chart of generation—**.

Paragraph 0024, line 3 – 4, after “according to” insert **—a preferred embodiment of—**.

Paragraph 0032, line 7, change “the flow chart of the generation” to **—a flow chart of generation—**.

Paragraph 0032, line 8, after “according to” insert **—a preferred embodiment of—**.

Appropriate corrections are required.

Claim Objections

4. Claims listed below are objected to because of the following informalities:

Claim 1, line 3, change “the design” to **—a design—**.

Claim 1, line 9, after “command file” insert **—of the group of—**.

Claim 3, line 1, before “parameters” insert **—a set of—**.

Claim 3, line 1 – 2, change “comprise” to **—comprises—**.

Claim 4, line 1, before “parameters” insert **—a set of—**.

Claim 4, line 1 – 2, change “comprise” to **—comprises—**.

Claim 5, line 1, before “parameters” insert **—a set of—**.

Claim 5, line 1 – 2, change “comprise” to **—comprises—**.

Claim 6, line 4, change “the layout” to **—a layout—**.

Claim 6, line 4, before “parasitic” delete **—the—**.

Claim 6, line 10, after “command file” insert **—of the group of—**.

Claim 8, line 1, before “parameters” insert **—a set of—**.

Claim 8, line 1 – 2, change “comprise” to **—comprises—**.

Claim 9, line 1, before “parameters” insert **—a set of—**.

Claim 9, line 1 – 2, change “comprise” to **—comprises—**.

Claim 10, line 1, before “parameters” insert **—a set of—**.

Claim 10, line 1 – 2, change “comprise” to **—comprises—**.

Claim 11, line 5, change “the layout” to **—a layout—**.

Art Unit: 2825

- Claim 11, line 5, before "parasitic" delete ~~the~~.
- Claim 11, line 12, change "(k)" to ~~(a)~~.
- Claim 11, line 13 – 14, change "a command file" to ~~the command file~~.
- Claim 11, line 14, before "LVS/LPE" insert ~~the command file of~~.
- Claim 13, line 1, before "parameters" insert ~~a set of~~.
- Claim 13, line 1 – 2, change "comprise" to ~~comprises~~.
- Claim 14, line 1, before "parameters" insert ~~a set of~~.
- Claim 14, line 1 – 2, change "comprise" to ~~comprises~~.
- Claim 15, line 1, before "parameters" insert ~~a set of~~.
- Claim 15, line 1 – 2, change "comprise" to ~~comprises~~.

Appropriate corrections are required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

- (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
- (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

6. Claims 1 – 15 are rejected under 35 U.S.C. 102(e) as being unpatentable over U.S. Patent Application Publication No. 2004/0107197 A1 to Shen et al.

7. As to Claim 1, Shen et al. show and teach the following subject matter:

- Physical layout of an integrated circuit (IC) – [Paragraph 0004]; A method for generating a DRC command file – [Fig. 5B; Paragraph 0042]; Technology choices and process options – [Paragraph 0006]; Notice that the DRC command file is used by a verification tool in verifying the physical layout of an IC;

Art Unit: 2825

- Select technology from a group of technologies (logic, MS/RF et al.); Process features – [Fig. 2B]; Notice that a logic IC and a RF IC requires different processes
- Setting a set of parameters (e.g., number of poly layers; number of metal layers) – [Fig. 2B];
- By marking DRC command file selection to extract program codes from a plurality of subprograms (i.e., modules) according to the selected process technology and the set of parameters – [Fig. 2C-1].

For reference purposes, the explanations given above in response to Claim 1 are called [Response A] hereinafter.

8. As to Claim 2, in addition to reasons included in Response A] given above, Shen et al. show and teach the following subject matter:

- In addition to the correspondence between a schematic and physical layout (i.e., LVS), it is also necessary that the IC circuit design be consistent with the fabrication processes – [Paragraph 0005]; Notice that (1) the DRC rules include LVS rules (2) DRC command files are also for use in verification of LVS rules of a IC design;
- By marking RC extraction selection to extract program codes from a plurality of subprograms (i.e., modules) according to the selected process technology and the set of parameters – [Fig. 2C-1]. Notice that the RC extraction is extraction of parasitic resistance R and parasitic capacitance C of physical layout of a IC design under study.

For reference purposes, the explanations given above in response to Claim 2 are called [Response B] hereinafter.

9. As to Claim 11, reasons are included in [Response B] given above.

10. As to Claims 3, 4, 8, 9, 13 and 14, in addition to reasons included in [Response A] and [Response B] given above, Shen et al. show in Fig. 2B and teach the subject matter regarding setting number of metal layers and number of poly layers.

Art Unit: 2825

11. As to Claim 5, 10 and 15 in addition to reasons included in [Response A] and [Response B] given above, Shen et al. show in Fig. 2B and teach the subject matter regarding setting geometry of IC package – [Fig. 2A; Fig. 2B; Fig. 2C; Paragraph 0033, 0034].

12. As to Claims 2, 7 and 12, it is well known in the art that a command file, which has many selections (e.g., process/verification tool, process technology) and parameters, can be generated using a group of subroutines/subprograms (i.e., modules); each of subroutines/subprograms (i.e., modules) performs a task based on selections and/or parameters. Once process/verification tool are selected and a set of parameter is set and choice of design rules (i.e., DRC or/or LVS and/or LPE) is chosen, the command file used by the verification tool in verifying a layout and/or parasitic characteristics of an integrated circuit is automatically generated. The command file is functioning by calling the subprograms (modules) by the selections and/or parameter settings marked in Figs. 2A, 2B, 2C. Number of modules included in a command file depends upon the selections and/or parameter settings marked in Figs. 2A, 2B, 2C, which are required for verifying DRC rules or/or LVS rules and/or LPE rules chosen.

Conclusion

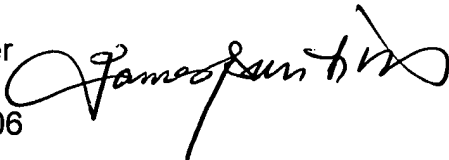
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Sun James Lin* whose telephone number is (571) 272 - 1899. The examiner can normally be reached on Monday-Friday 9:30AM - 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *Jack Chiang* can be reached on (571) 272 - 7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2825

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sun James Lin
Patent Examiner
Art Unit 2825
January 30, 2006

A handwritten signature in black ink, appearing to read "James Lin", is written over the printed name and date.